

Application No.: 10/539,652
Filing Date: June 14, 2005

AMENDMENTS TO THE DRAWINGS

The attached sheet of drawing includes changes to Figure 1. This sheet replaces the original sheet including Figure 1.

Attachment: replacement sheet

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REMARKS

Applicant has reviewed and considered the Office Action and the cited references mailed July 12th, 2007.

In response thereto, claims 2 and 9 are cancelled without prejudice or disclaimer; and claims 1, 3, 10, 11, 12 and 13 have been amended. As a result, claims 1, 3-8 and 10-16 are still presently pending in the application.

Objection to Specification

The disclosure was objected to by the Examiner because on page 11, line 9, the segment "two trimming heads (48)" should read --two trimming heads (58)--. Appropriate correction has been made in this regard, according to the Examiner's suggestion.

Objection to Drawings

The drawings were also objected to by the Examiner because Figure 1 has not been provided in English. A corresponding replacement sheet including new amended Figure 1 with English translation of corresponding expressions found in original Figure 1 is enclosed herewith.

Response to the Obviousness Rejections

Claims 1, 2, 9 and 14 were rejected under 35 U.S.C. 103(a) as being unpatentable over McGRIFF (US Patent 4,210,184) in view of STROUD (US Patent 4,947,909). Claims 3-5 were rejected under 35 U.S.C. 103(a) as being unpatentable over McGRIFF (US Patent 4,210,184) in view of STROUD (US Patent 4,947,909) in view of HUTCHINSON et al. (US Patent 3,045,728), herein referred to as HUTCHINSON. Claims 6-8 were rejected under 35 U.S.C. 103(a) as being unpatentable over McGRIFF (US Patent 4,210,184) in view of STROUD (US Patent 4,947,909) and in further view of RICHARDSON (US Patent 2,169,394). Claims 10-13 were rejected under 35 U.S.C. 103(a) as being unpatentable over McGRIFF (US Patent 4,210,184) in view of STROUD (US Patent 4,947,909) and in further view of RICHARDSON (US Patent 2,169,394) and still further view of JANSSON (US Patent 4,637,443). Claims 15-16 were rejected under 35 U.S.C. 103(a) as being unpatentable over McGRIFF (US Patent

4,210,184) in view of STROUD (US Patent 4,947,909) and in further view of SELLERS, Jr. et al. (US Patent 3,844,399), herein referred to as SELLERS.

The above-mentioned obviousness rejections are respectfully traversed for the following reasons:

Claim 1 has been amended to recite:

"1. An apparatus for guiding a plank (2) towards cutting tools (22), the apparatus comprising:

evaluation means for evaluating the plank (2) and generating a signal representing at least one parameter of the plank (2);

a frame (8);

a platform (42) mounted on the frame (8) and having a support surface (44) for supporting the plank (2);

a first guide and drive mechanism mounted on the platform (42) for receiving, guiding and driving the plank (2) along a path (20) on the support surface (44), the first mechanism comprising two first guide and drive elements (10, 12) arranged opposite relative to the path (20);

a second guide and drive mechanism mounted on the platform (42) for guiding and driving the plank (2) from the first mechanism along the path (20) on the support surface (44) up to the cutting tools (22), the second mechanism comprising two second guide and drive elements (14, 16) arranged opposite relative to the path (20) and being substantially parallel to the path (20), the guide and drive elements of the mechanisms located on a same side of the path (20) being connected by a pivot axis (46); and

displacing means for displacing the guide and drive elements from the first and second mechanisms in parallel and equidistant in relation to the path (20), in response to the signal;

wherein the platform (42) comprises at least one support plate (4, 6) in relation to the path (20), the guide and drive elements of the mechanisms located on a same side of the path (20) being mounted on a corresponding support plate (4, 6), the apparatus further comprising at least one actuator (54) for displacing each support plate (4, 6) transversally in relation to the path (20) in response to the signal;

wherein each of the guide and drive elements of the mechanisms comprises an endless belt (48) having an exterior surface for cooperating with the plank (20) to be guided; and

wherein the first and second guide and drive mechanisms comprise means for exerting a pressure on the first and second guide and drive elements on each side of the plank (2) in response to the signal."

(underlining and reference numbers have been added by us herein for sake of better explanation and argumentation only and do not correspond to the underlining used to indicate the amendments introduced into Claim 1 in the present response).

Former independent claim 1 has thus been amended so as to introduce therein the limitations of former claims 2 and 9, as well as some limitations of former claim 3, and so as to thus better highlight the components and features of the present invention considered patentably distinguishable and inventive over the prior art cited. The various innovative features of the present invention have thus been underlined and referenced above and are supported by the text and figures of the present application as originally filed. Thus, it is respectfully submitted that no new matter has been introduced with the present amendment.

It is respectfully submitted also that Claim 1 as amended herein clearly distinguishes itself in a patentable manner over the prior art, and more particularly over the cited references.

Indeed, important advantages result from the components and features recited in currently amended independent claim 1, namely:

- a) two (2) separate drive-and-guide mechanisms, that is, first and second drive-and-guide mechanisms (elements 10 and 12 corresponding to the first drive-and-guide mechanism, and elements 14 and 16 corresponding to the second drive-and-guide mechanism), each drive-and-guide mechanism being cooperable with one another via a pivot axis 46, but at the same time being independently operable via corresponding displacing means (e.g. actuators), as can be easily understood when contrasting Figures 10 and 11 of the present description, for example. The second drive-and-guide mechanism (elements 14 and 16) can be seen as a "feed" mechanism into the cutting tools 22 or trimming heads 58, whereas the first drive-and-guide mechanism (elements 10 and 12) can be seen as a "stabilizing" mechanism for stabilizing the mid portion and/or rear portion of the plank to

be processed – this is particularly advantageous for reducing instability of the planks in the cutting tools caused by the present of surface defects (faults, knots, etc.) which are typically found during a "first stage" processing of wood ("primary sector" of the wood industry), and is also particularly advantageous for reducing vibration of the plank during processing thereof; etc.;

- b) elements 14 and 16 of the second drive-and-guide mechanism are substantially parallel to the path (and thus to the front portion of the plank approaching the trimming heads 58 or cutting tools 22), whereas elements 10 and 12 of the first drive-and-guide mechanism are operable at an angle with respect to the path (and thus with respect to the plank to be processed: see Figure 11, for example), and are operated to be pressed against the mid portion and/or rear portion of the plank to be processed (see Figure 10, for example) – this is particularly advantageous for stabilizing the mid portion and/or rear portion of long planks which is still not fed into the cutting tools so as to prevent "wobbling" thereof during action of the cutting tools on the front portion of the planks;
- c) displacing means for displacing the above-mentioned guide-and-drive mechanisms (elements 10, 12, 14, 16) in response to the signal (i.e. a signal obtained from the evaluation means and being representative of at least one parameter (curvature, taper, etc.) of the plank to be guided into and processed by the cutting tools - this is particularly advantageous for changing the positioning of the plank "dynamically" and in "real-time" in accordance with the quality of its surface, the cutting depth of the trimmer heads, as well as other factors to consider during a first stage processing of the plank;
- d) at least one support plate 4, 6 onto which the drive-and-guide elements of the two mechanisms located on a same side of the path are mounted on, each support plate 4, 6 being configured to be displaced transversally to the path via actuator(s) in response to the signal (i.e. in response to a signal from the evaluation means and being representative of at least one parameter (curvature, taper, etc.) of the plank to be guided and processed – this is particularly advantageous for a precise positioning of the plank based on the cutting pattern to be carried out and being customized based on the different and particular profile of each plank to be processed;

- e) an endless belt provided about the above-mentioned guide-and-drive mechanisms (elements 10, 12, 14, 16), and having an exterior surface for cooperating with the plank to be guided and processed, the endless belt being provided about the guide-and-drive elements 14, 16 of the second guide-and-drive mechanism being used for guiding and driving the front portion of the plank approaching the trimming heads 58 or cutting tools 22, whereas the endless belt provided about the guide-and-drive elements 10, 12 of the first guide-and-drive mechanism is used for guiding and driving the mid portion and/or rear portion of the plank to be processed – see Figures 10 and 11 for example - this is particularly advantageous in that the above-mentioned first drive-and-guide mechanism (elements 10 and 12) according to the present invention is thus via the endless belt an "operative" and "continuous" extension of the second drive-and-guide mechanism (elements 14 and 16), said second drive-and-guide mechanism being used namely to secure and feed the front portion of the plank whereas the first drive-and-guide mechanism (elements 10 and 12) being retractable (may be opened or closed at an angle) and operable so as to namely stabilize the mid portion and/or rear portion of the plank (once again, this is particularly advantageous for handling long planks and/or planks having substantial defects (pronounced curvature, pronounced taper, etc.); and
- f) means for exerting a pressure on the above-mentioned guide-and-drive mechanisms (elements 10, 12, 14, 16) on each side of the plank and in response to the signal (i.e. in response to a signal from the evaluation means and being representative of at least one parameter (curvature, taper, etc.) of the plank to be guided and processed – as mentioned before, this is particularly advantageous for changing the positioning of the plank "dynamically" and in "real-time" in accordance with the quality of its surface, the cutting depth of the trimmer heads, as well as other factors to consider during a first stage processing of the plank.

In contrast, not only does McGRIFF not describe all of the above-mentioned components and features of the present invention, with resulting advantages, as briefly described above, but it is respectfully submitted that McGRIFF teaches away from the present invention with corresponding drawbacks and associated inconveniences, in that, for example:

- a) only a single and non-separate drive-and-guide mechanism is provided according to McGRIFF, this single and non-separate drive-and-guide mechanism comprising elements 82, 84 (corresponding very roughly to elements 14 and 16 of the present invention). Thus, elements 82 and 84 of this single and non-separate drive-and-guide mechanism according to McGRIFF only act as a "feed" mechanism, and provide no stabilization for a mid portion and/or rear portion of the cant to be processed, as there is no need for it, given that the apparatus according to McGRIFF is intended for resawing only (very important to take into account), in that, it is intended for re-processing (i.e. "resawing") during a "second stage" ("secondary sector" of the wood industry), cants having been processed previously during a "first stage" (thus, the cants to be resawed according to McGRIFF generally have four straight and smooth sides, deprived of "imperfections" (curve, taper, etc.);
- b) furthermore, these elements 82, 84 are only feed rollers (see column 5, lines 59-68), and as a result thereof, cannot be operated at angle or used to abut against the mid portion and/or rear portion of the cant to be processed for stabilization purposes or adjustment of positioning of the cant;
- c) because the apparatus according to McGRIFF is designed to further process (i.e. "resaw"), during a second stage, cants having been processed previously during a first stage (thus, the cants to be resawed generally have four straight and smooth sides, deprived of imperfections (curve, taper, etc.)), the feed rollers 82, 84 are first secured into place, and then kept as such during the entire resawing process. As better indicated in column 6, lines 8-14 of McGRIFF, *"The width of a cant that can be accepted by the resaw apparatus is determined primarily by the lateral separation 87 of the two sets of rollers, and the direction of movement of the cant is determined by the orientation and alignment of the two vertical planes defined respectively by tangents to the cylindrical surfaces of the two rollers of each respective set."* Thus, these feed rollers 82, 84 according to McGRIFF are not configured to be displaced dynamically or in a real-time mode during the resawing process in response to a particular profile of the cant to be processed.
- d) similarly, and for the same reasons as in c), the at least one support plate (carriages 88, 90) according to McGRIFF is not configured to be displaced dynamically or in a real-time

mode during the resawing process in response to a particular profile of the cant to be processed;

- e) it is only the feed rollers 82, 84 that are in contact with the cant to be resawed according to McGRIFF, that is, only a tangential contact surface of the feed rollers 82, 84 is possible with the cant (see for example, reference 82 of Figure 4), rather than a continuous exterior surface provided by the endless belt mounted about first and second drive-and-guide mechanisms (i.e. "feeding" and "stabilizing" mechanisms) according to the present invention, the first drive-and-guide mechanism (elements 10 and 12) according to the present invention being retractable (may be opened or closed at an angle) and operable so as to namely stabilize the mid portion and/or rear portion of the plank, with resulting advantages as explained above; and
- f) the apparatus and corresponding feed rollers 82, 84 according to McGRIFF, in addition to all of the above-mentioned drawbacks and inconveniences, does not provided elements and/or cooperation thereinbetween that enable to change the positioning of the plank "dynamically" and in "real-time" in accordance with the quality of its surface, the cutting depth of the trimmer heads, as well as other factors to consider during a first stage processing of a plank, given that the apparatus according to McGRIFF is meant for resawing only during a second stage processing with cants (not "planks") to be "resawed" and generally having four straight and smooth sides, deprived of "imperfections".

Likewise, Applicant respectfully asserts that the other references cited, namely STROUD (US Patent 4,947,909), HUTCHINSON et al. (US Patent 3,045,728), RICHARDSON (US Patent 2,169,394), JANSSON (US Patent 4,637,443) and SELLERS, Jr. et al. (US Patent 3,844,399), present similar drawbacks and inconveniences.

Furthermore, Applicants maintain that the present invention does not represent the combination of elements in the prior art to perform the same function that they performed separately and to achieve predictable results. Rather, a skilled technician at the time of the present invention would then have had to not only display skill and ingenuity to identify the problems associated with the prior art references, as discussed above, but also come up with the

Application No.: 10/539,652
Filing Date: June 14, 2005

corresponding solutions to said problems, which are only taught and claimed in new amended independent claim 1 of the present application.

Thus, the Applicant respectfully submits that such intellectual work or brainstorming has to be inventive and consequently believes that the subject matter of new amended independent claim 1 is non-obvious and thus patentable.

Moreover, in order to further demonstrate the non-obviousness of the present invention, it is also respectfully submitted that the inventor, despite being familiar with systems corresponding to those of the references cited, and being an expert in his field (including several years of experience), has had to dedicate a lot of time, energy and efforts, and resort to a partnership with a company to spend substantial sums for research and development, in order to come up with an apparatus such as that of the present application, with corresponding components and features, and resulting advantages, as now better defined in new amended independent claim 1.

Hence, in view of the above modifications and information, the Applicant respectfully submits that currently amended independent claim 1 is new and inventive, as explained above. Since claims 3-8 and 10-16 depend all directly or indirectly on claim 1, and since these dependent claims define distinctively the subject matter which the Applicant regards as his invention, it is believed that these dependent claims are also new and non-obvious, and thus allowable.

It is to be understood though that no admission is made nor implied by the present amendment as to the fact that the prior art cited may be relevant. Indeed, this amendment is made solely to expedite the prosecution of the present application.

In view of the above, it is respectfully submitted that the present application is in a condition for allowance, reconsideration of the present application and a favorable response are respectfully requested.

No Disclaimers or Disavowals

Although the present communication includes alterations to the application and claims, as well as characterizations of claim scope or referenced art, the Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather,

Application No.: 10/539,652
Filing Date: June 14, 2005


any alterations or characterizations are being made to facilitate expeditious prosecution of this application. The Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that the Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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